

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/827480 Confirmation No.: 3304
Applicant: FECHT, *et al.*
Filed: 04/19/2004
TC/A.U.: 1612
Examiner: Roberts, Lezah
Docket No.: DC4998 CIP1
Customer No.: 00137
Date: 18 May 2009
For: Substituted Hydrocarbyl Functional Siloxanes for Household, Health,
and Personal Care Applications

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

In response to the 09-17-2009 final rejection of US Application 10/827,480, and further to Applicant's Notice of Appeal dated 1-16-2009, Applicant submits this Appeal Brief.

Table of Contents

The Real Party in Interest is identified at p. 3.

Related Appeals and Interferences are identified at p. 3.

Status of Claims is at p. 3.

Status of Amendments is at p. 4.

Summary of the Claimed Subject Matter begins at p. 5.

Grounds of Rejection to be Reviewed on Appeal are at p. 7.

Argument begins at p. 7.

Claims Appendix begins at p. 20.

Evidence Appendix begins at p. 22.

Related Proceedings Appendix begins at p. 22.

Real Party in Interest

The real party in interest in this appeal is Dow Corning Corporation, the assignee of the above application.

Related Appeals and Interferences

Appellants are not aware of any related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-14 were originally filed in this application. Claims 1-14 were subjected to a Restriction and Election of Species Requirement in an Office Action dated 09/27/2007. In response (dated 10-26-2007 and 1-21-2008), Applicants canceled claims 8 and 10. Applicants also withdrew claims 13 and 14. Applicants elected the species where hydrocarbyl group is defined as R¹ having the formula $-(CH_2)_3OCH_2CH_2OH$.

In a Response dated 06-10-2008, claim 1 was amended to limit the organopolysiloxanes to the polydiorganosiloxanes of original claim 3. Claim 3 was canceled accordingly.

Claims 1, 2, 4-7, 9, 11 and 12 are pending in this application and were finally rejected in the office action dated 09-17-09.

The status of claims on appeal is as follows. Claims 1, 4, and 5 are previously presented. Claims 2, 6, 7, 9, 11 and 12 are original. Claims 1, 2, 4-7, 9, 11 and 12 are pending in this application and stand rejected.

Status of Amendments

An amendment under 37 C.F.R. 1.112 was submitted on 06-10-2008, claim 1 was amended to limit the organopolysiloxanes to the polydiorganosiloxanes of original claim 3. Claim 3 was canceled accordingly. These amendments were entered by the Examiner.

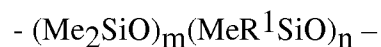
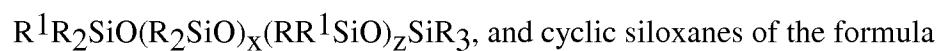
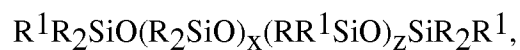
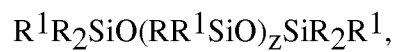
No amendments have been submitted subsequent to the Final Rejection dated 09-17-09. The appealed claims 1, 2, 4-7, 9, 11 and 12 are in the Claims Appendix of this brief.

Summary of the Claimed Subject Matter

Claim 1

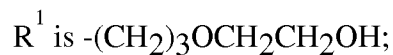
This invention relates to a composition comprising;

.....(i) a hydrocarbyl functional organopolysiloxane having a formula selected from the group:



where

R is an alkyl, cycloalkyl, alkenyl, aralkyl, or an aryl group containing 1-20 carbon atoms;



x is 1-500, z is 1-40, m is 1-6, n is 1-6, and the sum of m + n is 3-12; and

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient.

This claim is mapped to the specification as follows;

page 4, paragraph [0009], lines 4 - 12 and

page 5 line 6, paragraph [0016], to page 6, line 9.

Claim 11

Claim 11 is an independent claim directed to a specific embodiment of the present invention that reads;

A cosmetic product comprising the composition of claim 9.

As such independent claim 11 is related to a cosmetic product comprising;

.....(i) a hydrocarbyl functional organopolysiloxane having the formula



where R^1 is $-(CH_2)_3OCH_2CH_2OH$ and x is 10-20

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient and a pigment.

This claim is mapped to the specification as follows;

page 4, paragraph [0010], lines 13 – 21, page 6 line 21-25, page 7 line 27 and 31.

Grounds of Rejection to be Reviewed on Appeal

Claims 1, 2, 4-7, and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated by Hiwatari et al. (JP 2000336018).

Claims 1, 2, 4, 5, 6 and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated as being anticipated by Candau (US 6,033,648).

Claims 1, 2, 4-7, 11 and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kumar et al. (US 5,468,477).

Argument

35 U.S.C. §102(b)

The Examiner rejected claims 1, 2, 4-7, and 9 under 35 U.S.C. §102(b) as being anticipated by Hiwatari et al. (JP 2000336018).

The Examiner rejected claims 1, 2, 4, 5, 6 and 9 as being anticipated by Candau (US 6,033,648)

The Examiner rejected claims 1, 2, 4-7, 11 and 12 as being anticipated by Kumar et al. (US 5,468,477).

Appellant respectfully submits the three 102 rejections to be improper for the reasons as detailed below.

*Claims 1, 2, 4-7, and 9 stand rejected under 35 U.S.C. §102(b) as
being anticipated by Hiwatari et al. (JP 2000336018).*

Claims 1, 2, 4-7, and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated by Hiwatari et al. (JP 2000336018). This rejection was first asserted in the final rejection dated 9-17-09. The Examiner's basis for the rejection is shown below.

Hiwatari et al. disclose hair compositions comprising the hydrocarbyl functional organopolysiloxane compounds of the instant claims (see structures 11 and 12, and paragraphs 0032-0035 of the enclosed translation). The compositions may also comprise color (paragraph 0062 of enclosed translation), encompassing claim 9. The reference anticipates the instant claims insofar as it discloses a composition comprising a hydrocarbyl functional organopolysiloxane compound of the instants and at least one cosmetic ingredient.

The Examiner further asserts in the 2/23/2009 Advisory Action

In regards to Hiwatari, the compounds having structures 9 and 10 encompass the formulas of the instant claims. The claims disclose several formulas that include various compounds encompassed by said formulas. The core silicone structure of the instant claims may have repeating units ranging from 1 to 500 whereas the corresponding core of the reference, having two variables, will each have a range of 1-1000. The end groups of the reference comprise formula 10 wherein the ethylene oxide group and the propylene oxide group have repeating units ranging from 0-50. Therefore one in the art would be able to envision the compound of the instant claims.

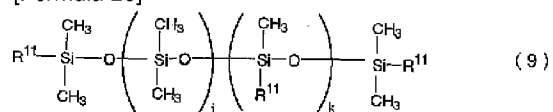
Appellant believes the 102(b) rejection based on Hiwatari to be improper for the following reasons. The present claims are drawn to a composition comprising a hydrocarbyl functional organopolysiloxane. The hydrocarbyl group is defined as R^1 having the formula $\text{---}(\text{CH}_2)_n\text{OCH}_2\text{CH}_2\text{OH}$. Hiwatari discloses silicone polyether or silicone oxyalkylene substituted silicones where in all cases the oxyalkylene groups are described as being selected from a combination of multiple EO ($-\text{CH}_2\text{CH}_2\text{O}-$) and PO ($-\text{C}_3\text{H}_6\text{O}-$) units. Appellant believes Hiwatari at best discloses a chemical formula that represents a genus of the present hydrocarbyl functional organopolysiloxanes. As such, Appellant believes anticipation should be evaluated according to MPEP 2131.02. That is, for a generic chemical formula to anticipate a claimed species, the species should be envisioned at once from the formula. Appellant submits the generic formulae used in Hiwatari are so broad, and encompass such a large number of possibilities, that the present hydrocarbyl functional organopolysiloxane species as claimed are not “at once envisioned”. Appellant believes Hiwatari’s preferred teaching to polyether or multiple EO/PO units, provides further evidence that one skilled in the art would not have “at once envisioned” the hydrocarbyl groups of the present claims.

Appellant reproduces below the sections believed to be relevant, as quoted by the Examiner. In particular, structure 9 and 10 are shown.

[0031] These oxyalkylene group content denaturation dimethylpolysiloxane, Carry out copolymerization of dimethylsiloxane and the siloxane which has an oxyalkylene group like the above, or dimethylpolysiloxane is back-denaturalized with a compound which has an oxyalkylene group like the above, Although obtained by introducing an oxyalkylene group into a dimethylpolysiloxane skeleton, in this invention, a copolymer of dimethylsiloxane and a siloxane which has a polyoxyalkylene group of said polymer skeleton is preferred in inside. As polyether denaturation dimethylpolysiloxane, what is shown with the following formula (9) or (10) is still more preferred.

[0032]

[Formula 20]

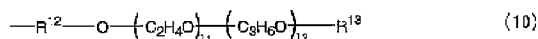


R¹¹ among a formula the ether bond content group or methyl group shown with a following formula (10).

(However, no R¹¹ shall serve as a methyl group simultaneously). R¹² the hydrocarbon group of bivalence with a single bond or 1-6 carbon atoms, R¹² -- an alkyl group with a hydrogen atom or 1-12 carbon atoms -- j and k -- respectively -- the number of 1-1,000 -- l₁ and l₂ show the number of 0-50 (however, it is l₁+l₂>=1), respectively.

[0033]

[Formula 21]



As a commercial item of such polyether denaturation dimethylpolysiloxane, For example, "KF945A", "KF351A", "KF354A" (Shin-Etsu Chemical Co., Ltd.), "SH3771C", "SH3749" (Dow Corning Toray Silicone, Inc.), "L-7602C", "L-720" (Nippon Unicar, Inc.), "SF1066" (general electrics company), etc. can be illustrated. As a methylphenyl polysiloxane, what is shown with the following formula (11) or (12) is preferred.

[0034]

Appellant respectfully submits that in formula 10 of Hiwatari, no less than 2500 (50 x 50) oxyalkylene species are represented in this formula, not including possibilities or variations for the

R¹³ endgroup. Thus, Appellant's R¹ formula is but one of at least 2500 possibilities, and as such, would not be "envisioned at once".

Appellant further argues that the 102(b) rejection is improper for failing to consider Hiwatari's preferred embodiments, as stated in MPEP 2131.02

One may look to the preferred embodiments to determine which compounds can be anticipated. In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

Appellant notes the expressed teachings and preferred structures of Hiwatari are to "polyethers" (see line 5 of [0031]) or polyoxyalkylene groups (see line 5 of [0031]) In particular, Hiwatari lists commercial products all considered as "polyethers" (see [0033]). Appellant submits presently claimed R¹ would not be considered as a "polyether" to one skilled in the art, as "poly" implies more than one, or multiple numbers of an ether or oxyalkylene chemical unit. Thus, Appellant argues that one skilled in the art, upon reading Hiwatari, would not immediately recognize the presently claimed siloxanes having the defined R¹ hydrocarbyl group. Appellant respectfully submits that the 102(b) rejection fails to consider Hiwatari's preferred structures, and as such does not provide a proper assessment of novelty in accordance with MPEP 2131.02.

*Claims 1, 2, 4, 5, 6 and 9 stand rejected under 35 U.S.C. §102(b)
as being anticipated as being anticipated
by Candau (US 6,033,648).*

Claims 1, 2, 4, 5, 6 and 9 stand rejected under 35 U.S.C. §102(b) as being anticipated as being anticipated by Candau (US 6,033,648). This rejection was first asserted in the final rejection dated 9-17-09. The Examiner's basis for the rejection is shown below.

Candau discloses tanning compositions comprising iron oxide nano-pigments (see Abstract), encompassing claims 9 and 11. The compositions also comprise a silicone emulsifier encompassing the hydrocarbyl functional organopolysiloxane compounds of the instant claims (col. 6, lines 39-62). These are preferred emulsifiers. The compositions are cosmetics and additionally comprise conventional cosmetic and/or dermatological adjuvants (col. 10, lines 49-59). The reference anticipates the instant claims insofar as it discloses a composition comprising a hydrocarbyl functional organopolysiloxane compound of the instant claims and at least one cosmetic ingredient.

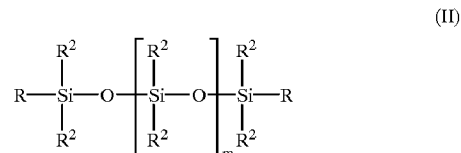
The Examiner further asserts in the 2/23/2009 Advisory Action;

In regards to Candau, the instant claims encompass various compounds. Candau discloses compounds encompassed by the various compounds recited in the instant claims. Compounds of formula II in the reference encompass the instant claims and one of skill in the art would be able to envision the compounds based on the disclosure of the reference. The core silicone structure of the reference may have repeating units ranging from 5 to 300 and the group in the instant claims corresponding to this group may have repeating units ranging from 1 to 500. Therefore in this regard, the compounds of the reference are less broad than those of the instant claims. In regards to the oxyalkylene side chains, this group is encompassed by the definition of R of formula 1 when s is 3, t is 1 and u is 0 and R1 is H. Therefore the reference anticipates the instant claims.

Appellant believes the 102(b) rejection based on Candau to be improper for the following reasons. The present claims are drawn to a composition comprising a hydrocarbyl functional organopolysiloxane. The hydrocarbyl group is defined as R^1 having the formula $-(CH_2)_sO(CH_2)_tCH_2OH$. Candau discloses silicone polyether or silicone oxyalkylene substituted silicones where in all cases the oxyalkylene groups are described as being selected from a combination of multiple EO ($-CH_2CH_2O-$) and PO ($-C_3H_6O-$) units. Appellant believes Candau at best discloses a chemical formula that represents a genus of the present hydrocarbyl functional organopolysiloxanes. As such, Appellant believes the standards for patentability as noted in the MPEP 2131.02 should apply. That is, for a generic chemical formula to anticipate a claimed species, the species should be envisioned at once from the formula. Appellant submits the generic formulae used in Candau are so broad, and encompass such a large number of possibilities, that the present hydrocarbyl functional organopolysiloxane species as claimed are not “at once envisioned”. Appellant believes Candau’s preferred teaching to polyether or multiple EO/PO units, provides further evidence that one skilled in the art would not have “at once envisioned” the hydrocarbyl groups of the present claims.

Appellant reproduces below the sections believed to be relevant, as quoted by the Examiner. In particular, structure II is shown.

A silicone emulsifier which is very particularly preferred for inclusion in the compositions according to the invention is an oxyalkylene silicone substituted at the α - and ω -positions, having a linear structure, substituted at the two ends of the main chain by oxyalkylene groups bonded to the Si atoms via a hydrocarbon-comprising group. More particularly preferred are the silicones having the the following structural formula (II):



in which R is a radical $-(\text{CH}_2)_s\text{O}-(\text{C}_2\text{H}_4\text{O})_t(\text{C}_3\text{H}_6\text{O})_u\text{R}^1$ wherein R^1 is H, CH_3 or CH_2CH_3 , s is an integer ranging from 1 to 5, t ranges from 1 to 100 and u ranges from 0 to 50, with the proviso that the $(\text{C}_2\text{H}_4\text{O})$ and $(\text{C}_3\text{H}_6\text{O})$ structural units may be distributed randomly or in blocks, the R^2 radicals are each a C_1 - C_3 alkyl radical or a phenyl radical, and $5 \geq m \geq 300$.

The oxyalkylenated silicones substituted at the α - and ω -positions according to the present invention preferably have the formula (II) in which each of the R^2 radicals is a methyl radical, s ranges from 2 to 4; t ranges from 3 to 100; and m ranges from 50 to 200.

Appellant respectfully submits that in formula (II) of Candau, no less than 5000 (50×1000) oxyalkylene species are represented in this formula, not including possibilities or variations for the R^1 endgroup (including these would increase the variations $3 \times$ to 15,000). Thus, Appellant's R^1 formula is but one of at least 15,000 possibilities, and as such, Appellant's argue would not be "envisioned at once".

Appellant further argues that the 102(b) rejection is improper for failing to consider Candau's preferred embodiments, as stated in MPEP 2131.02

One may look to the preferred embodiments to determine which compounds can be anticipated. In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

Appellant notes the expressed teachings of Candau to "emulsifiers" and multiple oxyalkylene groups. In particular, Candau preferred structures have a minimum of 3 ethylene oxide units (t, or l as incorrectly shown in the structure, ranges from 3 to 100) . Thus, Appellant respectfully submits that one skilled in the art, upon reading Candau, would not immediately recognize the presently claimed siloxanes having the defined R¹ hydrocarbyl group based on Candau's preferred embodiments. Appellant respectfully submits that the 102(b) rejection fails to consider Candau's preferred structures, and as such does not provide a proper assessment of novelty in accordance with MPEP 2131.02.

Claims 1, 2, 4-7, 11 and 12 stand rejected under 35 U.S.C. §102(b)

as being anticipated by Kumar et al. (US 5,468,477)

Claims 1, 2, 4-7, 11 and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kumar et al. (US 5,468,477). This rejection was first asserted in the final rejection dated 9-17-09. The Examiner's basis for the rejection is shown below.

Kumar et al. disclose cosmetic compositions comprising silicone polymers. The compositions may be formulated into lipsticks (col. 17, lines 30-45). The compositions comprise surface actives which include the hydrocarbyl functional organopolysiloxane compounds encompassed by the instant claims (col. 23, lines 5-50). The compositions also comprise pigments (col. 19, lines 45-52), encompassing claim 9. The reference anticipates the instant claims insofar as it discloses a composition comprising a hydrocarbyl functional organopolysiloxane compound of the instants and at least one cosmetic ingredient.

The Examiner further asserts in the 2/23/2009 Advisory Action;

In regards to Kumar et al., the compounds of the instant claims are encompassed by the formula disclosed in column 23. The variables a and b may range preferably from 1-30 and 1-50 respectively. G is an oxyalkylene group which encompasses R1 of the instant claims because p may range from 1-5, m ranges from 1-50 and n ranges from 0-30. When p is 3, m is 1, n is 0 and Rb is hydrogen, the formula encompasses the instant claims and one of skill in the art would be able to envision the compound when reading the reference.

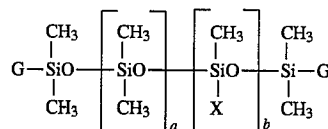
Appellant believes the 102(b) rejection based on Kumar to be improper for the following reasons.

The present claims are drawn to a composition comprising a hydrocarbyl functional organopolysiloxane. The hydrocarbyl group is defined as R^1 having the formula ...

$(CH_2)_nOCH_2CH_2OH$. Kumar discloses silicone polyether or silicone oxyalkylene substituted silicones where in all cases the oxyalkylene groups are described as being selected from a combination of multiple EO ($-CH_2CH_2O-$) and PO ($-C_3H_6O-$) units. Appellant believes Kumar at best discloses a chemical formula that represents a genus of the present hydrocarbyl functional organopolysiloxanes. As such, Appellant believes the standards for patentability as noted in the MPEP 2131.02 should apply. That is, for a generic chemical formula to anticipate a claimed species, the species should be envisioned at once from the formula. Appellant submits the generic formulae used in Kumar are so broad, and encompass such a large number of possibilities, that the present hydrocarbyl functional organopolysiloxane species as claimed are not “at once envisioned”. Appellant believes Kumar’s preferred teaching to polyether or multiple EO/PO units, provides further evidence that one skilled in the art would not have “at once envisioned” the hydrocarbyl groups of the present claims.

Regarding the rejection based on Kumar, Appellant reproduces below the sections believed to be relevant, as quoted by the Examiner. In particular, the structure in column 23 is shown.

Oxyalkylene-modified organosiloxane type surface active agents which can emulsify water into the oily components of the cosmetic composition can be used as additional components without any special restriction. Oxyalkylene-modified organosiloxanes include polyether-modified silicones, and alkylpolyether-modified silicones. Organosiloxanes shown below are presented as examples and are not limited by any means.



wherein G represents CH₃, or (CH₂)_pO(C₂H₄O)_m(C₃H₆O)_nR_a, or (OC₂H₄)_m(OC₃H₆)_nOR_b wherein p is 1-5, m is 1-50 and n is 0-30; R_a, and R_b represents a hydrogen atom or an alkyl group having 1-5 carbon atoms; X represents (CH₂)_pO(C₂H₄O)_m(C₃H₆O)_nR_a, or (OC₂H₄)_m(OC₃H₆)_nOR_b wherein p, m, and n have the same meaning as defined above; a is 1-300, and preferably 1-30; and b is 1-350, and preferably 1-50. Each G and X can be same or different in a molecule. Moieties represented by repeating units a and b may also be present in a random fashion.

Appellant respectfully submits that the formula in column 23 of Kumar, no less than 1500 (30 x 50) oxyalkylene species are represented in this formula, not including possibilities or variations for the R_a or R_b endgroups (including these would increase the variations 6x to 9,000). Thus, Appellant's R¹ formula is but one of at least 9000 possibilities, and as such, would not be "envisioned at once".

Appellant further argues that the 102(b) rejection is improper for failing to consider Kumar's preferred embodiments, as stated in MPEP 2131.02

One may look to the preferred embodiments to determine which compounds can be anticipated. In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

Appellant notes the expressed teachings of Kumar to “surface active agents” and polyether groups. Appellant submits presently claimed R^1 would not be considered as a “polyether” to one skilled in the art, as “poly” implies more than one, or multiple numbers of an ether or oxyalkylene chemical unit. Thus, Appellant argues that one skilled in the art, upon reading Kumar, would not immediately recognize the presently claimed siloxanes having the defined R^1 hydrocarbyl group. Appellant respectfully submits that the 102(b) rejection fails to consider Kumar’s preferred structures, and as such does not provide a proper assessment of novelty in accordance with MPEP 2131.02.

Therefore, the appellants request that the rejection under 35 U.S.C. §102(b) be reversed and the claims allowed to issue. Based on the above arguments, the appellants respectfully request that the Examiner’s rejections of claims 1, 2, 4-7, 9, 11 and 12 in the present application be reversed and that the claims be allowed.

Respectfully Submitted,

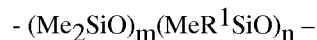
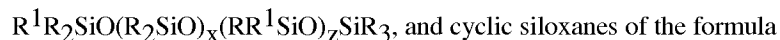
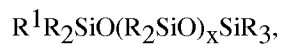
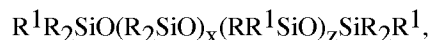
/Alan Zombeck/

Alan Zombeck
Reg. No. 45,260
Tel: 989-496-3101

Claims Appendix

1. *(Rejected)* A composition comprising;

.....(i) a hydrocarbyl functional organopolysiloxane having a formula selected from the group:



where

R is an alkyl, cycloalkyl, alkenyl, aralkyl, or an aryl group containing 1-20 carbon atoms;

R^1 is $-(CH_2)_3OCH_2CH_2OH$;

x is 1-500, z is 1-40, m is 1-6, n is 1-6, and the sum of m + n is 3-12; and

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient.

2. *(Rejected)* The composition of claim 1 wherein the hydrocarbyl functional organopolysiloxane contains 10 to 20 mass percent of the R^1 hydrocarbyl group.

3. *(Canceled)*

4. *(Rejected)* The composition of claim 1 wherein R is methyl.

5. *(Rejected)* The composition of claim 1 wherein the organopolysiloxane has the formula



where R^1 is $-(\text{CH}_2)_3\text{OCH}_2\text{CH}_2\text{OH}$ and x is 1-100.

6. *(Rejected)* The composition of claim 5 wherein x is 5-50.

7. *(Rejected)* The composition of claim 5 wherein x is 10-20.

8. *(Canceled)*

9. *(Rejected)* The composition according to claim 7 further comprising a pigment.

10. *(Canceled)*

11. *(Rejected)* A cosmetic product comprising the composition of claim 9.

12. *(Rejected)* The cosmetic product of claim 11 where the cosmetic product is a lipstick.

13. *(Withdrawn)* A method of treating hair or skin comprising applying to hair or skin the composition of claim 1.

14. *(Withdrawn)* A method of treating hair or skin comprising applying to hair or skin the product of claim 7.

Application No 10/827,480
Appeal Brief dated 05/16/2009

Evidence Appendix

None

Related Proceedings Appendix

None